AMERICAN HIPPOTHERAPY ASSOCIATION, INC.
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American Hippotherapy Association, Inc. Statements of Best Practice for the Use of Hippotherapy by Occupational Therapy, Physical Therapy, and Speech-Language Pathology Professionals

These statements are published by the American Hippotherapy Association, Inc., a nonprofit organization whose mission is to improve lives by advancing education, best practices, and resources for licensed healthcare professionals who incorporate horses in skilled therapy services.

AHA, Inc. is not responsible for the use or misuse of the information presented in the Statements of Best Practice for the use of equine movement (hippotherapy) by occupational therapy, physical therapy, and speech-language pathology professionals.

Revised December, 2022. Approved by Board of Directors, August 2023.

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Introduction and History

The American Hippotherapy Association, Inc. (AHA, Inc.) is committed to its international members and the public to promote excellence in the use of equine movement (hippotherapy) in treatment by occupational therapy, physical therapy, and speech-language pathology professionals to improve patients' functional outcomes. AHA, Inc. has developed the following statements of best practice to support therapists in providing optimal treatment. These statements, which are supported by evidence-based research where possible, are used in addition to a therapist's clinical decision-making skills for provision of high-quality professional care. These statements are intended to provide guidance in decision-making and utilization of equine movement (hippotherapy). However, one's local practice acts and scope of practice may supersede these statements. Therapists are responsible for being familiar with individual facility operating standards. In accordance with the mission of AHA, Inc. these statements have been developed to promote excellence through the education of licensed healthcare professionals who incorporate horses in therapy.

The statements are divided into three elements: the statement, the rationale, and the

references. The use of the word SHALL in this document represents a strong recommendation and indicates that the therapist considers the recommendations and their own clinical reasoning to reach the best conclusion possible to achieve safe and effective outcomes.

In 2014, a group of dedicated individuals representing the Board of Directors, faculty, and membership embarked on a project that ultimately led to the development of the Statements of Best Practice. This work will hopefully stand up to the test of time and guide therapists through any uncertainty in practice.

Description of Hippotherapy

AHA, Inc. describes hippotherapy as follows:
The term hippotherapy refers to how occupational therapy, physical therapy, and speech-language pathology professionals use evidence-based practice and clinical reasoning in the purposeful manipulation of equine movement as a therapy tool to engage sensory, neuromotor and cognitive systems to promote functional outcomes.

Best practice dictates that occupational therapy, physical therapy, and speech-language pathology professionals integrate hippotherapy into the patient's plan of care, along with other therapy tools and/or strategies.

Acknowledgements

AHA, Inc. would like to recognize the efforts of the original task force: Chair: Susie Rehr, PT, HPCS; Jane Burrows, DPT, HPCS; Bonnie Cunningham, MA, PT, HPCS; Lisa Harris, PT, MS,HPCS,MSVSc; Lauren Janusz, OTR, HPCS; Meredith Bazaar, MS, CCC-SLP, HPCS; Sara Goodstone, DPT, HPCS; and Janet Weisberg, OTR, HPCS. Their hard work combined with the contributions of the 2015 Board of Directors and faculty culminated in the Dec 2015 version. The 2021-2023 Professional Practice Committee, Faculty, and Board of Directors worked to update to the 2023 version.

Disclaimer

American Hippotherapy Association, Incorporated ("AHA, Inc.") Statements of Best Practice ("Statements") are intended to encourage, educate, and promote best practices by its professional members who incorporate equine movement in treatment. These statements are merely suggestive and not a requirement or prerequisite for membership in AHA, Inc. Any therapist who is practicing at a Professional Association of Therapeutic Horsemanship International ("PATH Intl.") center shall adhere to those standards for the practice setting and these Statements for their delivery of therapy. The exclusion of practices and procedures not

included in the Statements does not suggest or imply that such practices and procedures are substandard or unsafe.

These AHA, Inc. Statements have been developed based upon input and recommendations of experienced therapists. They offer a suggested approach towards the practice of incorporating equine movement in treatment, or indicate the need for clear well reasoned rationale for choosing not to adopt a particular statement of best practice. *This is a living document that is periodically revised and refined to reflect current best practices.* AHA, Inc. does not monitor, assure, or oversee its professional members' compliance with the Statements. AHA, Inc. does not warrant, guarantee, or ensure that compliance with these Statements will prevent any or all injury, loss, claims, or litigation that may be caused by or associated with a therapist's adherence to these Statements; nor, does AHA, Inc. assume any responsibility or liability for any such injury, loss, claims, or litigation.

AHA, Inc. hereby expressly disclaims any responsibility, liability, or duty to its professional members and their directors, staff, and volunteers, and to patients and their families treated by professional members of AHA, Inc. for any such liability arising out of injury, loss, claims, or litigation to any person as a result of a professional member's adherence or non-adherence to these Statements.

Statements of Best Practice

1.0 Treatment Team

1.1 All therapy professionals (occupational therapists, certified occupational therapy assistants, physical therapists, physical therapy assistants, speech-language pathologists, and speech-language pathology assistants) incorporating equine movement (hippotherapy) into their practice shall hold a current license in their state or country and work within the scope of their practice act. It is further recommended that they have a minimum of one (1) year (2000 hours) experience as a practicing therapist, including, but not limited to, the areas of sensory, neuromotor, and cognitive systems prior to the inclusion of equine movement in practice. If practicing less than one (1) year, a mentor is recommended. After meeting these criteria, all therapists shall have completed AHA, Inc. Part I and Part II Treatment Principles courses, or the equivalent, and become AHCB credentialed. AHCB offers two examinations by which to become credentialed: AHCB Hippotherapy Certification or Hippotherapy Clinical Specialist® (HPCS).

Rationale: It is imperative that the therapist demonstrate sufficient practical knowledge and clinical judgment to safely and effectively integrate equine movement (hippotherapy) into a plan of care. One year of clinical experience working with individuals with neuromotor and sensorimotor disorders, in addition to specialized

training and education, supports the development of practical skills and increases the safety and efficacy of the therapeutic intervention.[1]

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

1.2 All therapists incorporating equine movement (hippotherapy) into their practice shall recognize their role as team leader and communicate effectively with their treatment team for the highest quality of patient care and safety. This includes, but is not limited to, the following:

a. The most effective use of equine movement (hippotherapy) is carried out by a team of skilled professionals and ancillary personnel: licensed therapy professionals, equine professional, horse handler, sidewalker(s), and the specially trained horse.
b. All therapists incorporating equine movement (hippotherapy) into their practice shall be able to perform and teach each team member's tasks, and/or recognize the level of expertise needed from others recruited to work on the team.
c. All therapists incorporating equine movement (hippotherapy) into their practice shall understand the role and duties of the horse handler/equine professional. It is their responsibility to evaluate whether the horse professional is demonstrating expertise at a level to allow the therapist to conduct safe and effective therapy.
d. The horse handler is responsible for the training, conditioning, and handling of the horse for optimal therapeutic movement during treatment sessions. Together, the therapist and equine professional shall oversee the safety of the environment, the behavior of the horse, utilization of appropriate tack and equipment, and the training of the horse.

Rationale: It is imperative that when incorporating equine movement (hippotherapy), there is a coordinated team approach for the safety of the client and all team members.[1] This is not an environment where the therapist works in isolation. Effective communication and teamwork are essential for the delivery of safe, high quality patient care. Communication failures are an extremely common cause of inadvertent patient harm. The complexity of medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians have standardized communication tools, create an environment in which individuals can speak up, express concerns, and share common critical language to alert team members to unsafe situations. Too frequently, effective communication is situation or personality dependent. Other high reliability domains, such as commercial aviation, have shown that the adoption of standardized tools and behaviors is a very effective strategy in enhancing teamwork and reducing risk.[2] If a therapist does not have the skill to safely navigate this complex environment, they need to recognize the need for qualified equine support staff. It is ultimately the therapist's responsibility, in conjunction with the equine professional, to evaluate the appropriateness of all therapy horses. In a

collaborative discussion, the equine support staff may provide guidance that includes, but is not limited to horse care/management, handling, horse and tack selection, evaluation of movement, lameness, grooming, tacking, and desensitization.

References:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. Leonard, M., Graham, S., & Bonacum, D. (2004). The human factor: the critical importance of effective teamwork and communication in providing safe care. *Quality and Safety in Health Care, 13*(suppl 1), i85-i90. https://doi.org/10.1136/qshc.2004.010033

1.3 All therapists incorporating equine movement (hippotherapy) into their practice shall have sufficient equine knowledge and skills to provide a safe and effective treatment. If they do not possess this level of skill and knowledge as evidenced by credentials such as AHCB Certified or HPCS, they shall practice with the support of equine professionals to provide a safe environment for the treatment team, the horse, and the patient.

Rationale: It is imperative that when incorporating equine movement (hippotherapy), the therapist has the skills to safely navigate this complex environment. Literature has shown that an individual needs to learn about horse behavior, safety, and movement/gaits to acquire proficiency working around horses. For an optimal learning environment, it is recommended that a therapist consult an instructor from national credentialing organizations such as the Certified Horsemanship Association (CHA), the Professional Association of Therapeutic Horsemanship International (PATH, Intl.), the United States Dressage Federation (USDF), the United States Equestrian Federation (USEF), the United States Pony Club (USPC), or the British Horse Society (BHS). If the therapist does not have this skill, they shall recognize the need for qualified equine support staff. In a collaborative effort, the equine support staff may provide guidance that includes, but is not limited to, horse and tack selection, evaluation of movement, lameness, grooming, tacking, desensitization, and general equine fitness.[1-8]

References:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. Srinivasan, V., Pierre, C., Plog, B., Srinivasan, K., Petraglia, A. L., & Huang, J. H. (2014). Straight from the horse's mouth: Neurological injury in equestrian sports. *Neurological Research*, *36*(10), 873–877. https://doi.org/10.1179/1743132814Y.0000000373
3. Certified Horsemanship Association (CHA) www.cha.horse
4. Professional Association of Therapeutic Horsemanship International (PATH, INTL). www.pathintl.org
5. United States Dressage Federation (USDF). www.usdf.org

6. United States Equestrian Federation (USEF). www.usef.org
7. United States Pony Club (USPC). www.ponyclub.org
8. British Horse Society (BHS). www.bhs.org.uk

1.4 In order to provide safe and effective treatment, all therapists incorporating equine movement (hippotherapy) shall have the following skills related to the horse:[1]

a. All therapists shall be able to evaluate the therapy horse for conformation and movement for the purpose of effective treatment.
b. All therapists shall be able to interpret the horse's basic mood and behaviors and recognize signs of stress.
c. All therapists shall be able to sit astride a horse at the walk without saddle and reins, while being led, long-lined, or lunged, with the purpose of assessing the horse's movement for therapy.

Rationale: It is imperative that when incorporating equine movement (hippotherapy), the therapist shall demonstrate an understanding of the horse and equine behavior. The therapist shall also possess skills sufficient to evaluate equine movement to provide safe and effective treatment.

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

1.5 All therapists incorporating equine movement (hippotherapy) into their practice shall have theoretical and practical knowledge about all equipment related to the horse and the patient. The therapist shall:

a. Be knowledgeable about how these factors impact the patient and horse for safe and effective treatment.[1]
b. The therapist and/or horse handler shall check equipment fit and condition prior to each treatment session to ensure safety.

Rationale: The fit and use of specific equipment is essential to therapeutic outcomes. As such it is imperative that when incorporating equine movement (hippotherapy) the therapist has the skill to utilize clinical knowledge to make appropriate equipment choices to meet the needs of the patient.

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

1.6 All therapists incorporating equine movement (hippotherapy) into their practice shall work in conjunction with the equine professional to ensure that the horse is safely and effectively led or long-lined and produces the medical quality movement required for the treatment session. The equine professional shall:

a. Have the ability to produce medical quality movement of the horse during a

treatment session.

b. Recognize safety issues and control the horse during an emergency.
c. Recognize signs of stress in the horse and respond effectively.
d. Recognize unsoundness in the horse and respond appropriately.
e. Control the horse during all transitions, including transitions on and off the horse as well as position changes.
f. Know the school figures that the therapist will be using in sessions.
g. Communicate to the therapist any issues regarding the horse prior to and during treatment sessions.

Rationale: When incorporating equine movement (hippotherapy), the therapist shall understand the inherent differences in the varied equine movements, as well as their performance and effect. Additionally, therapists shall request specific movements efficiently and effectively for optimal therapeutic outcomes. The horse handler is responsible for engaging the horse in such a manner, whether leading or long lining, which provides the greatest opportunity for carefully modulated equine movement. Horse handlers, trainers, and therapists shall consider that long-lining is an advanced skill requiring greater fitness and strength. Time shall be given for the horse and handler to integrate the physical and cognitive expectations necessary for treatment.[1]

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

1.7 All therapists incorporating equine movement (hippotherapy) into their practice shall collaborate with an equine professional/equine support staff that fulfills the following expectations:

a. Has knowledge and experience developing and implementing a training and conditioning program specific to each therapy horse in consultation with the therapist.
b. Prepares therapy horses for treatment sessions relative to session requirements, including warm-up and equipment.
c. Participates in educational opportunities related to implementation of therapy treatment sessions.
d. Monitors status of all equine equipment, horses, and general procedures including thorough documentation of equine health records to maximize quality, safety, and productivity.
e. Participates in the decision-making process for all horses in the practice including:
    a. Evaluating a horse for the therapy program
    b. Maintaining ongoing oversight of appropriateness of horses remaining in therapy program (retirement, vacation)

f. Assists in determining the horse handler/horse pairings and selection of horse/patient pairing.
g. Monitors workload and schedule for horses.
h. Assists therapist in selecting appropriate equipment.

Rationale: Incorporation of equine movement (hippotherapy) requires the controlled direction of equine movement, and thus it is important that equine welfare be a collaborative effort between the therapist and a qualified equine specialist. Depending on size of practice and equine knowledge base, the therapist may not be able to fill both roles. It is ultimately the therapist's responsibility to evaluate whether the equine professional and/or horse handler is providing the expertise at a sufficient level to ensure a safe and effective treatment intervention.[1,2]

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. Professional Association of Therapeutic Horsemanship International (PATH, INTL). www.pathintl.org

1.8 All therapists incorporating equine movement (hippotherapy) into their practice shall select or supervise the selection of the horse used in treatment sessions, ensuring they meet the following criteria:

a. The therapy horse meets a minimum standard of conformation as set forth in the AHA, Inc. Part I Hippotherapy Treatment Principles Course Manual (6th ed.).[1]
b. The therapy horse walks, trots, and canters exhibiting self-carriage and no signs of lameness, physical discomfort, and/or psychological distress.
c. The therapy horse maintains straightness, symmetry, and engagement of the hindquarters while being led or long-lined, provides smooth transitions between and within all gaits used for the therapy session, stops with square halts, and tolerates all positions and transitions used within the therapy session without signs of increased stress or physical discomfort.
d. The therapy horse shall have ongoing management and training to maintain optimal physical and psychological fitness for the job being performed.
e. The therapy horse shall be free of any signs of lameness, obvious physical discomfort, and psychological distress.

Rationale: It is ultimately the therapist's responsibility, in conjunction with the equine professional, to evaluate the appropriateness of all therapy horses. Implementation of equine movement (hippotherapy) treatment principles requires the controlled manipulation of equine movement.

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy*

Association: Part I Treatment Principles Course Manual (6th Ed). Denver, CO.

2.0 Professionalism

2.1 All therapy professionals incorporating equine movement (hippotherapy) into their practice shall conduct themselves in a manner that demonstrates compliance with state and federal regulatory guidelines, as well as recommendations for ethical conduct as published by each of the appropriate national organizations.

Rationale:

The AOTA 2020 Occupational Therapy Code of Ethics is a guide to professional conduct when ethical issues arise. Ethical decision-making is a process that includes awareness of how the outcome will impact occupational therapy clients in all spheres. Applications of Code and Ethics Standards Principles are considered situation specific, and when a conflict exists, occupational therapy personnel must pursue responsible efforts for resolution. These principles apply to occupational therapy personnel engaged in any professional role, including elected and volunteer leadership positions.[1] The specific purposes of the AOTA 2020 Occupational Therapy Code of Ethics are to:

a. Identify and describe the principles supported by the occupational therapy profession.
b. Educate the general public and members regarding established principles to which occupational therapy personnel are accountable.
c. Socialize occupational therapy personnel to expected standards of conduct.
d. Assist occupational therapy personnel in recognition and resolution of ethical dilemmas.

The Code of Ethics for the Physical Therapist (Code of Ethics) delineates the ethical obligations of all physical therapists as determined by the House of Delegates of the APTA.[1] This Code of Ethics was developed to:

a. Define the ethical principles that form the foundation of physical therapist practice in patient/client management, consultation, education, research, and administration.
b. Provide standards of behavior and performance that form the basis of professional accountability to the public.
c. Provide guidance for physical therapists facing ethical challenges, regardless of their professional roles and responsibilities.
d. Educate physical therapists, students, other health care professionals, regulators, and the public regarding the core values, ethical principles, and standards that guide the professional conduct of the physical therapist.
e. Establish the standards by which the APTA can determine if a physical therapist has engaged in unethical conduct.

No code of ethics is exhaustive, nor can it address every situation. Physical

therapists are encouraged to seek additional advice or consultation in instances where the guidance of the Code of Ethics may not be definitive.[2]
The Code of Ethics - American Speech-Language-Hearing Association states that the preservation of the highest standards of integrity and ethical principles is vital to the responsible discharge of obligations by speech-language pathologists, audiologists, and speech, language, and hearing scientists.[3] This Code of Ethics sets forth the fundamental principles and rules considered essential to this purpose.

a. Individuals shall honor their responsibility to hold paramount the welfare of persons they serve professionally or who are participants in research and scholarly activities, and they shall treat animals involved in research in a humane manner.
b. Individuals shall honor their responsibility to achieve and maintain the highest level of professional competence and performance.
c. Individuals shall honor their responsibility to the public by promoting public understanding of the professions, by supporting the development of services designed to fulfill the unmet needs of the public, and by providing accurate information in all communications involving any aspect of the professions, including the dissemination of research findings and scholarly activities, and the promotion, marketing, and advertising of products and services.
d. Individuals shall honor their responsibilities to the professions and their relationships with colleagues, students, and members of other professions and disciplines.

References:

1. American Occupational Therapy Association, Inc. (2020, December 21). AOTA 2020: Occupational therapy code of ethics. *The American Journal of Occupational Therapy, 74*(Supplement_3), 7413410005p7413410001-7413410005p7413410013. https://doi.org/10.5014/ajot.2020.74S3006
2. American Physical Therapy Association. (2020, August 12). *Code of ethics for the physical therapist*. https://www.apta.org/apta-and-you/leadership-and-governance/policies/code-of-ethics-for-the-physical-therapist
3. American Speech-Language-Hearing Association. (2016). *Code of ethics* [Ethics]. https://inte.asha.org/Code-of-Ethics/

2.2 All therapy professionals incorporating equine movement (hippotherapy) into their practice shall comply with supervisory recommendations as per local regulatory requirements and as outlined by each individual's national professional and licensing organizations as it relates to the use of certified occupational therapy assistants, physical therapist assistants, and speech-language pathology assistants.

Regulations: The following recommendations have been made by the US national therapy organizations, not to preclude recommendations made by one's country of practice organizations:[1]

As per the **American Occupational Therapy Association (AOTA)**, supervision involves guidance and oversight related to the delivery of occupational therapy services and the facilitation of professional growth and competence. It is the responsibility of occupational therapists and occupational therapy assistants to seek the appropriate quality and frequency of supervision to ensure safe and effective occupational therapy service delivery. It is the responsibility of occupational therapists and occupational therapy assistants to recognize when supervision is needed and to seek supervision that supports current and advancing levels of competence. The certified occupational therapy assistant should understand that each state has supervision requirements, guidelines, and standards that are unique to that state.[2]

As per the **American Physical Therapy Association (APTA)**,[3] the physical therapist assistant must work under the direction and general supervision of the physical therapist. In all practice settings, the performance of selected interventions by the physical therapist assistant must be consistent with safe, legal physical therapist practice, and shall be predicated on the following factors: complexity and acuity of the patient's/client's needs, proximity and accessibility to the physical therapist, supervision available in the event of emergencies or critical events, and type of setting in which the service is provided. When supervising the physical therapist assistant in any off-site setting, the following requirements must be observed. A physical therapist must be accessible by telecommunications to the physical therapist assistant at all times while the physical therapist assistant is treating patients/clients. There must be regularly scheduled and documented conferences with the physical therapist assistant regarding patients/clients, the frequency of which is determined by the needs of the patient/client and the needs of the physical therapist assistant. In those situations in which a physical therapist assistant is involved in the care of a patient/client, a supervisory visit by the physical therapist will be made: upon the physical therapist assistant's request for a reexamination, when a change in the plan of care is needed, prior to any planned discharge, and in response to a change in the patient's/client's medical status; at least once a month, or at a higher frequency when established by the physical therapist, in accordance with the needs of the patient/client. A supervisory visit should include an onsite reexamination of the patient/client, onsite review of the plan of care with appropriate revision or termination, and evaluation of need and recommendation for utilization of outside resources.

As per the **American Speech-Language-Hearing Association (ASHA)**, the minimum requirements for the frequency and amount of supervision are as follows: [4]

First 90 workdays: A total of at least 30% supervision, including at least 20% direct and 10% indirect supervision, is required weekly. Direct supervision of student, patient, and client care should be no less than 20% of the actual student, patient, and client contact time weekly for each speech-language pathology assistant. This ensures that the supervisor will have direct contact time with the assistant as well as with the student, patient, or client. During each week, data on every student, patient, and client seen by the assistant should be reviewed by the supervisor. In addition, direct supervision should be scheduled so that all students, patients, and clients seen by the assistant are directly supervised in a timely manner. Supervision days and time of day (morning/afternoon) may be alternated to ensure that all students, patients, and clients receive some direct contact with the SLP **at least once every 2 weeks**.

After first 90 workdays: The amount of supervision can be adjusted if the supervising speech-language pathology determines the speech-language pathology assistant has met appropriate competencies and skill levels with a variety of communication and related disorders. Minimum ongoing supervision must always include documentation of direct supervision provided by the speech-language pathologist to each student, patient, or client **at least every 60 calendar days**. A minimum of 1 hour of direct supervision weekly and as much indirect supervision as needed to facilitate the delivery of quality services must be maintained. Documentation of all supervisory activities, both direct and indirect, must be accurately recorded. Further, 100% direct supervision of speech-language pathology assistants for medically fragile students, patients, or clients is required.

Rationale: It is expected that therapy services are delivered in accordance with applicable state and federal regulations, relevant workplace policies, national therapy Codes of Ethics, and continuing competency and professional development guidelines.

References:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. American Occupational Therapy Association. (2020) Guidelines for supervision, roles, and responsibilities during the delivery of occupational therapy services. *The American Journal of Occupational Therapy, 74*(Supplement_3), 7413410020p7413410021-7413410020p7413410026. https://doi.org/10.5014/ajot.2020.74S3004
3. American Physical Therapy Association (2018, August 30). *Direction and supervision of the physical therapist assistant*. https://www.apta.org/apta-and-you/leadership-and-governance/policies/direction-supervision-pta.

4. American Speech-Language-Hearing Association. (2019, August). *Guidelines for SLP Supervision of Speech-Language Pathology Assistants.* https://www.asha.org/policy/sp2013-00337/#sec1.13.

2.3 All therapy professionals shall perform due diligence in analyzing the risk of injury or death compared to associated benefits when using equine movement (hippotherapy) in their plan of care.

Rationale: The risk associated with utilizing equine movement (hippotherapy) for sensorimotor and neuromotor disorders shall be considered within a clinical reasoning framework. That is, the risk may vary somewhat depending on the patient's individual clinical presentation, particularly in the presence of risk factors secondary to the complexity of the patient's diagnosis. It is therefore the responsibility of the therapist to recognize and consider whether the risk for a particular patient is increased, and to do whatever is reasonable to minimize any risk associated with equine movement (hippotherapy).[1-3]

Reference:

1. Code of Ethics. American Speech-Language-Hearing Association. (2016, March 1). Retrieved February 1, 2022, from https://www.asha.org/policy/et2016-00342/#sec1.2
2. AOTA 2020 Occupational Therapy Code of Ethics. AOTA. (2020, December 21). Retrieved February 1, 2022, from https://research.aota.org/ajot/article/74/Supplement_3/7413410005p1/6691/AOTA-2020-Occupational-Therapy-Code-of-Ethics?_ga=2.193725933.1909100193.1643760962-338917635.1631998577
3. Code of Ethics for the Physical Therapist. APTA. (2020, August 12). Retrieved February 1, 2022, from https://www.apta.org/siteassets/pdfs/policies/codeofethicshods06-20-28-25.pdf

2.4 All therapists incorporating equine movement (hippotherapy) into their practice shall know and follow all precautions and contraindications specific to this intervention.[1]

Rationale: It is imperative that, when incorporating equine movement (hippotherapy), the therapist has extensive knowledge of all contraindications and precautions in order to perform a risk benefit analysis to determine efficacy of treatment preference.

(See Appendix A for Precautions and Contraindications)

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

2.5 All therapy professionals incorporating equine movement (hippotherapy) into their practice and providing services for medically complex patients shall consider the following variables:[1]

a. Ensure that the entire therapy team acquires an appropriate knowledge base for complex diagnoses.
b. Consider the suitability of the team. To facilitate safe, effective treatment,

additional staff may be needed.

c. Consider factors related to specific farm, equine, and patient equipment that may have an impact on the horse and staff.
d. Evaluate the impact of the equine movement on the patient.
e. Review the altered mobility and alignment of the patient.
f. Consider any factors that may increase risk to the patient, staff, and horse.
g. Address potential challenges during transitions on and off the horse.
h. Include secondary effects of patient medications in evaluations.
i. Notice the effect that varying environmental changes (e.g., temperature, time of day, dust, hair) have on the patient.
j. Conduct an altered risk versus benefit analysis. Remember that the first goal of treatment is to do no harm.
k. Remain aware of precautions and contraindications relative to complex diagnoses.
l. Identify any increased need for medical consultation to facilitate understanding of the specific treatment plan of care.

Rationale: Medically complex patients have comorbidity of several medical conditions that significantly compromise ability to function.[2] Treatment of the medically complex patient in the equine environment requires increased levels of knowledge, extensive expertise with varying diagnoses, and clear communication with the team to maximize effectiveness of treatment and minimize risk.

References:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. Cohen, E., Kuo, D. Z., Agrawal, R., Berry, J. G., Bhagat, S. K., Simon, T. D., & Srivastava, R. (2011). Children with medical complexity: An emerging population for clinical and research initiatives. *Pediatrics*, *127*(3), 529–538. https://doi.org/10.1542/peds.2010-0910

2.6 All therapy professionals incorporating equine movement (hippotherapy) into their practice shall follow appropriate documentation and billing procedures in compliance with state and federal regulatory guidelines, as well as recommendations of appropriate national organizations.[1-4]

Rationale: Therapists shall comply with their national organization's code of ethics and state legal requirements for documentation and billing.

References:

1. American Physical Therapy Association. (2018, August 30). *Documentation Authority for Physical Therapist Services.* https://www.apta.org/apta-and-you/leadership-and-governance/policies/documentation-authority-for-physical-therapist.

2. American Speech-Language-Hearing Association (n.d.). *Documentation in Health Care* (Practice Portal). Retrieved October 4, 2021 from www.asha.org/Practice-Portal/Professional-Issues/Documentation-in-Health-Care/
3. American Occupational Therapy Association, Inc. (2013). Guidelines for documentation of occupational therapy. *The American Journal of Occupational Therapy, 67*(6_Supplement), S32-S38. https://doi.org/10.5014/ajot.2013.67S32
4. American Physical Therapy Association. (2020, August 12). *Standards of practice for physical therapy*. https://www.apta.org/apta-and-you/leadership-and-governance/policies/standards-of-practice-pt

2.7 All therapists incorporating equine movement (hippotherapy) into their practice shall use current AHA, Inc. approved terminology in professional documentation, research publications, personal communications, and educational and marketing materials to promote clarity of understanding in the use of the terms related to *equine movement (hippotherapy)*.[1]

Rationale: Current terminology and technical terms have been developed to better describe the use of equine movement and environmental affordances within a plan of care. This terminology assists in accurately identifying the treatment tool as part of a plan of care developed by a licensed medical professional for each patient. Use of current terminology avoids confusion of terms used by the horsemanship and learning industries incorporating equines into their programs.

Reference:

1. American Hippotherapy Association, Inc. (n.d.) *AHA, Inc. Terminology for Healthcare.* Retrieved October 4, 2021, from: https://aha.memberclicks.net/assets/docs/AHA-%20Recommended%20Terminology.pdf

2.8 All therapy professionals shall strive to implement evidence-based practices into their clinical decisions.

Rationale: Evidence-based practice is the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions.[1-4] Best evidence includes empirical evidence from randomized controlled trials, evidence from other scientific methods such as descriptive and qualitative research, and use of information from case reports, scientific principles, and expert opinion.

References:

1. Cook D. (1998). Evidence-based critical care medicine: A potential tool for change. *New Horizons 6*(1), 20–25.

2. Jennings, B. M., & Loan, L. A. (2001). Misconceptions among nurses about evidence-based practice. *Journal of Nursing Scholarship 33*(2), 121–127. https://doi.org/10.1111/j.1547-5069.2001.00121.x
3. Straus, S. E., Glasziou, P., Richardson, W. S., Haynes, R. B. (2011). *Evidence-based medicine: How to practice and teach EBM* (4th ed.). Churchill-Livingstone Elsevier.
4. Titler, M.G. (2018). Chapter 20: Developing an Evidence-Based Practice. In G. Lobiondo-Wood & J. Haber (Eds.), *Nursing research: methods and critical appraisal for evidence- based practice* (9th ed, pp. 383-405). Elsevier.

2.9 All therapy professionals shall strive to support the planning and execution of rigorous research projects to promote the development of an evidence base for the use of equine movement (hippotherapy) within the therapy plan of care. The areas of endeavor shall include, but not be limited to, the following:[1]

a. Supporting the efforts of researchers to design and execute rigorous investigations.
b. Partnering with institutions and individuals conducting research when appropriate.
c. Assisting professional cohorts to be knowledgeable partners in outcomes-based research through the use of multifaceted interventions.[2]
d. Facilitating dialogue and communication among the research community, as well as other organizations or individuals interested in that research.
e. Supporting efforts for the dissemination and sharing of published research.

Rationale: Evidence-based practice is the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions.[1,2,4-6] Best evidence includes empirical evidence from randomized controlled trials, evidence from other scientific methods such as descriptive and qualitative research, and use of information from case reports, scientific principles, and expert opinion. Facilitation of use of current research to develop treatment plans is best promoted through multifaceted interventions and is more likely to improve practice than single interventions such as audit or feedback.[1-6]

References:

1. Components of evidence-based practice. APTA. (2020, March 23). Retrieved January 31, 2022, from https://www.apta.org/patient-care/evidence-based-practice-resources/components-of-evidence-based-practice

2. Joint Coordinating Committee on Evidence Based Practice. Evidence-based practice in communication disorders. (2005). American Speech-Language-Hearing Association. Retrieved January 31, 2022, from https://www.asha.org/policy/ps2005-00221/
3. Boaz, A., Baeza, J., Fraser, A., & European Implementation Score Collaborative Group (EIS) (2011). Effective implementation of research into practice: an overview of systematic reviews of the health literature. *BMC Research Notes*, *4*, 212. https://doi.org/10.1186/1756-0500-4-212
4. Straus, S. E., Glasziou, P., Richardson, W. S., Haynes, R. B. (2011). *Evidence-based medicine: How to practice and teach EBM* (4th ed.). Churchill-Livingstone Elsevier
5. Titler, M.G. (2018). Chapter 20: Developing an Evidence-Based Practice. In G. Lobiondo-Wood & J. Haber (Eds.), *Nursing research: methods and critical appraisal for evidenced- based practice* (9th ed, pp. 383-405). Elsevier
6. Bero, L. A., Grilli, R., Grimshaw, J. M., Harvey, E., Oxman, A. D., & Thomson, M. A. (1998). Closing the gap between research and practice: an overview of systematic reviews of interventions to promote the implementation of research findings. The Cochrane Effective Practice and Organization of Care Review Group. *BMJ (Clinical research ed.)*, *317*(7156), 465–468. https://doi.org/10.1136/bmj.317.7156.465

2.10 All therapists incorporating equine movement (hippotherapy) into their practice shall attend continuing education directly related to equine movement (hippotherapy) or supporting clinical and equine skills and knowledge.

Rationale: It is imperative that when incorporating a treatment tool such as equine movement (hippotherapy), all therapists participate in professional development not only to ensure the acquisition and maintenance of minimally acceptable standards of practice, but also to strive toward the achievement of advanced knowledge, skills, and abilities for excellence in practice. Professional development beyond entry-level academic degree work that is intended to provide advanced or enhanced knowledge in a particular area is the foundation for therapists assuming an attitude of inquiry and engaging in an ongoing process of assessment and evaluation of knowledge, skills, and abilities. The acquisition of new knowledge, skills, and behaviors is a planned activity, based on assessment and re-assessment of self and of the environment in which one practices. The therapist shall determine the appropriateness, relevance, and meaningfulness of the professional development activity to their practice setting.[1-3]

References:

1. American Occupational Therapy Association (2019, April). AOTA model

continuing competence guidelines: A resource for state regulatory boards and state agencies. https://www.aota.org/-/media/Corporate/Files/Advocacy/State/Resources/ContComp/modceguidelines.pdf

2. American Physical Therapy Association (2012, July 30). Professional development, lifelong learning, and continuing competence in physical therapy. https://www.apta.org/apta-and-you/leadership-and-governance/policies/professional-development-lifelong-learning
3. American Speech-Language-Hearing Association (n.d.). Professional development. Retrieved October 28, 2021 from http://www.asha.org/certification/ProfDevelopment/

3.0 Safety

3.1 All therapists incorporating equine movement (hippotherapy) into their practice shall use American Society for Testing and Materials /Safety Equipment Institute (ASTM/SEI) approved equestrian helmets for patients that can safely and appropriately wear them. The helmet should fit properly, should be an appropriate weight and distribution of weight for those with impaired neck strength and/or ligamentous integrity, and should not cause an unmanageable sensory response. If these parameters cannot be met, then by using a risk/benefit analysis and best clinical judgment an alternative solution can be considered. Policies regarding helmet use when utilizing equine movement and the equine environment should be developed and clearly stated.

Rationale: Multiple equestrian helmet research studies show that helmets do not prevent concussions but do help prevent skull fracture and head lacerations. Some states also have helmet laws that require the use of a helmet while on the horse.[1-6] If a clinician is licensed in a state with helmet laws, they must comply with state laws. Otherwise, the clinician should use their clinical judgment on best safety practices for using a helmet. There have been studies showing that children have less cervical ligamentous stiffness, strength, and muscle endurance compared to adults[7-8]. This indicates a need for therapists to assess these parameters in children and patients that may have cervical issues to ensure that the weight of a helmet will do no harm. Limited research has been conducted examining the potential impact on the neck in high level equestrian sports that require helmets.[9-10] There is no research on the impact on the neck during therapy activities while using an equestrian helmet. There is no research on the use of alternative helmets during therapy in regard to protection from head injury or concussions. Additionally, no studies exist regarding neck injuries with lightweight alternative helmets on patients with limited head control. Lightweight helmets have traditionally been recommended by therapists for children or adults who

are at increased risk for falls in a variety of environments. Information regarding proper fit, wear, and care of helmets, as well as a discussion of alternative helmets, can be found in the AHA, Inc. Part I Hippotherapy Treatment Principles course manual.[11]

References:

1. Agarwal, N., Thakkar, R., & Than, K. (2021). Sports Related Head Injury. *American Association of Neurological Surgeons*. https://www.aans.org/Patients/Neurosurgical-Conditions-and-Treatments/Sports-related-Head-Injury .
2. Mastellar, S.L. (2021) Equestrian Injury Statistics. Ohioline. https://ohioline.osu.edu/factsheet/19.
3. Riding Helmet Safety. University of Connecticut. https://animalscience.uconn.edu/equine/helmet-safety.php. Accessed February 13, 2022.
4. Zuckerman, S.L., Morgan, C.D., Burks, S., et al. (2015). Functional and Structural Traumatic Brain Injury in Equestrian Sports: A Review of the Literature. *World Neurosurgery.* 83(6), 1098-1113.
5. Helmet safety and legal liability. (2018). Allen Financial Insurance Group. https://www.eqgroup.com/library/helmet-safety/.
6. Sone, J. Y., Kondziolka, D., Huang, J. H., & Samadani, U. (2017). Helmet efficacy against concussion and traumatic brain injury: a review. *Journal of neurosurgery, 126*(3), 768–781.
7. Arbogast, K.B., Margulies, S.S., Patlak, M., et al. (2003). Review of Pediatric Head and Neck Injury: Implications for Helmet Standards. Summary of a conference held at The Children's Hospital of Philadelphia, Philadelphia, PA. 2003 March 31; https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.565.3870&rep=rep1&type=pdf.
8. Lavallee, A.V., Ching R.P., Nuckley D.J.(2013) Developmental biomechanics of neck musculature. *Journal of Biomechanics,* 46(3):527-534.
9. Lewis, V., & Baldwin, K. (2018). A preliminary study to investigate the prevalence of pain in international event riders during competition, in the United Kingdom. *Comparative Exercise Physiology*, 14(3)
10. Tsirikos, A., Papagelopoulos, P.J., Giannakopoulos, P.N., et al. (2001). Degenerative spondyloarthropathy of the cervical and lumbar spine in jockeys. *Orthopedics,* 24(6), 561-564
11. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

3.2 All therapists incorporating equine movement (hippotherapy) into their practice shall

develop comprehensive safety policies and training plans for the treatment team that include, but are not limited to, the following:

a. Safety concerns involving instruction in emergency transfer procedures with practice opportunities both on a regular basis and prior to providing services.
b. The availability of an appropriately trained first aid responder at all times, with development of policies and procedures to handle minor and major first aid incidents.
c. Current certification in first aid and CPR.
d. Equipment maintenance checks to assure serviceability, appropriate usage, fit, support, and comfort prior to, during, and after a treatment session.
e. The use of various items of protective equipment for the team members including, but not limited to, proper footwear for protection and support and gloves for protection during leading and long-lining.
f. Policies concerning the use of gait belts for patient protection.
g. Policies regarding supportive vests as appropriate for trunk support, proprioceptive input, or general protection during therapy. Orthoses such as stabilizing pressure input orthosis (SPIO), TheraTogs, and Benik may be used and can benefit the client through improved stability and sensory input. However, no research has been completed regarding the use of these devices for injury prevention in equestrian activities. Therapists should use professional knowledge and judgment to complete a risk/benefit analysis of such equipment during the use of equine movement.

Rationale:

a. Emergency procedures need to be planned and practiced before an emergency situation arises to minimize risk of injury to the patient or any team member. [1,2]
b. A minimum of 1 team member shall have first aid training to ensure proper care if an incident were to arise. Two trained members is preferable in the event the injured person is the trained person. [1,2]
c. Well-maintained equipment will ensure client safety and minimize the risk of equipment breakage resulting in an unexpected transfer off the horse. Safety stirrups allow the foot to be released quickly in an emergency situation. Please see references for information on proper fitting. [1,3]
d. Literature has shown that appropriate footwear and hand protection will

reduce risk of injury to those riding or working around horses. Proper leading and long lining techniques provide safe and efficacious movement to enhance a patient's functional gain. [1,3]

e. There is research that supports the use of a gait belt for patients to help prevent and control falls. Gait belts have been shown to both reduce the number of falls and the severity of injury from falls. [4]

References:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.
2. Fairfax, R. E. (2007). *United States Department of Labor*. OSHA requirements for providing training for first aid, CPR, and BBP for prompt treatment of injured employees at various workplaces. | Occupational Safety and Health Administration. https://www.osha.gov/laws-regs/standardinterpretations/2007-01-16-0
3. Carmichael II, S. P., Davenport, D. L., Kearney, P. A., & Bernard, A. C. (2014). On and off the horse: mechanisms and patterns of injury in mounted and unmounted equestrians. *Injury*, *45*(9), 1479-1483.
4. Staggs, V.S., Mion, L.C., & Shorr, R.I. (2014). Assisted and unassisted falls: different events, different outcomes, different implications for quality of hospital care. *Joint Commission Journal and Quality and Patient Safety,* 40(8):358-364.

3.3 Therapy professionals shall maintain a safe clinical space to provide ongoing diagnostic assessment and treatment. This space shall be clean, organized, and designated as clinic space, but can vary in size, location, and equipment dependent on the needs at any given time.

Rationale: This additional space is used for providing evaluation, consultation, treatment, or other interventions to patients with a primary purpose of instruction, research, or public service. This space provides a safe and organized environment for evaluation and/or treatment.[1]

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

3.4 Therapy professionals shall have at their disposal adequate workspace for equine related activities. The number of concurrent sessions may be limited by arena size.

Rationale: Adequate arena space, with appropriate footing and drainage, is necessary to provide appropriate space for effective treatment maneuvers. However, an arena with a length sufficient for the horse to complete a transition if needed and a patient to have enough time to accommodate the movement of the horse may be appropriate.

Reference:

1. American Hippotherapy Association, Inc. (2022). *American Hippotherapy Association: Part I Treatment Principles Course Manual (6th Ed)*. Denver, CO.

3.5 All therapists incorporating equine movement (hippotherapy) into their practice shall ensure a safe work environment. Consider the following in respect to environmental factors, buildings, workspaces, and local building/facility ordinances and codes:

a. Develop emergency action plans for anticipated emergency situations, train staff and volunteers on a regular basis, and review periodically to ensure the plan remains current. [1-3]
b. Keep buildings free of trash, litter, tools, or other items that could start or feed a fire, cause falls, or obstruct movement. [2,3]
c. Make all electrical repairs promptly. Check all electrical wiring regularly and verify that it is sound. Also, visually check portable equipment power cords before each use.[2,3]
d. Mount a fire extinguisher of the proper size and type at each building entrance. Also maintain an on-site adequate supply of water for use in fighting fires, and have readily available ladders that can reach the roof of the highest building.[2,3]
e. Post "No Smoking" signs in prominent locations and enforce smoking rules.[2,3]
f. See that all buildings have adequate lighting. Light fixtures in storage areas that contain combustible materials need to be protected against breakage. [3,5]
g. Install lightning protection systems in all major buildings. Check the systems annually to ensure that air terminals and conductors are properly grounded.[4]
h. Keep all stairs and permanent ladders in good condition. Clear stairs of objects and slippery substances and install handrails where needed.[5]
i. Repair or replace all rotted or broken floorboards and repair concrete floor defects. [5]
j. Organize and store supplies so that items cannot fall or block walkways. Ensure that shelving is stable and can bear the weight of items stored. Provide needed equipment (ladder, lift, etc.) for easy access to supplies. [5]
k. Close and secure doors and gates to hazardous areas (e.g., silos, manure storage, chemical storage, animal quarters) to prevent children and visitors from entering unescorted.[6]

Rationale: Observance of these practices addresses the areas of professionalism and risk reduction in this environment.

Reference:

1. "Emergency Response Plan." *Emergency Response Plan | Ready.gov*, United States Government, 25 Feb. 2022, https://www.ready.gov/business/implementation/emergency.
2. Doherty, Wayne. "7 Important Fire Prevention & Safety Measures for Buildings: AIE." *AIE Fire Protection*, 8 Dec. 2020, https://aiefire.com/important-fire-prevention-safety-measures-in-buildings/.
3. "Barn Fire Safety Checklist - NFPA." *National Fire Protection Association*, 2018, Https://Www.nfpa.org/-/Media/Files/Public-Education/Resources/Safety-Tip-Sheets/BarnSafetyChecklist.ashx, https://www.nfpa.org/-/media/Files/Public-Education/Resources/Safety-tip-sheets/BarnSafetyChecklist.ashx.
4. "Lightning Protection System Inspection and Maintenance Checklist: VFC." *VFC Lightning*, 26 Jan. 2021, https://vfclp.com/articles/lightning-protection-system-inspection-and-maintenance/.
5. "10 Ways to Reduce Slips, Trips, & Falls in Your Business: First Onsite." *FIRST ONSITE (US)*, 30 Dec. 2021, https://firstonsite.com/resource/10-ways-to-reduce-slips-trips-and-falls-in-your-business/.
6. "Farm Safety: Behavioral Hazards & Child Safety" *National Farmers Union*, 19 Aug. 2019, https://nfu.org/farmsafety/.

3.6 All therapists incorporating equine movement (hippotherapy) into their practice shall make appropriate accommodations that reflect the relationships between environment, equine, and client.

- Considerations of environmental factors
  - temperature
  - wind speed
  - humidity
  - severe weather- lightning, snow, ice
- Considerations for the equine include but are not limited to the following:
  - equine fitness- adequate conditioning for work in adverse temperatures
  - equine health- consideration of metabolic issues, arthritis, respiratory status, and/or weight status
  - equine age- consideration of factors of aging
  - equine weight- consideration of effect of over/under ideal weight
  - equine hair/coat thickness- consider necessity for clipping due to metabolic issues or temperature extremes
- Considerations for the client include but are not limited to the following:

- Client health- Pertinent health issues related to diagnosis, age, tonal set, respiratory, metabolic, or weight status
- Client fitness- ability to tolerate temperature extremes, ability to regulate internal temperatures, clothing available to help regulate temperature
- Ability to communicate distress during session activity level that may influence apparent temperature levels
- Potential for weather conditions that may result in negative outcomes of the therapy session.
- Whether benefit from treatment is more likely when held in a climate controlled or climate diverse setting.

Rationale for the equine: It has been shown that environmental factors can affect a horse's temperature by as much as three degrees[1]. Therefore, it is exceedingly important to utilize a comfort index in the heat as a guideline for decision making in the interest of equine welfare. A calculation of a comfort index[2] for horses can be made with the following formula: *Temperature (F) + relative humidity (%) = Comfort Index*

Evaluating your answer

Less than 130: All go- horses can function to cool themselves assuming adequate hydration.

130 - 170: Caution- a horse's cooling mechanisms can only partially function as intended. His body will not be able to cool itself properly and some cooling management procedures will need to be performed**.**

180 or above: Stop- a horse's cooling systems cannot and will not function adequately. All cooling procedures will need to be utilized to assist the horse in regulating/maintaining his temperature/avoiding veterinary assistance.

Wintertime considerations[3]- attention to adequate heat and hydration to maintain body temperature; attention given to post work "cool down"; clearing of snowballs from hooves. Blanketing a horse is necessary to reduce the effects of cold or inclement weather when:

- There is no shelter available during turnout periods and the temperatures drop below 5°F or the wind chill is below 5°F
- There is a chance the horse will become wet (not usually a problem with snow, but much more of a problem with rain, ice, and/or freezing rain)
- The horse has had its winter coat clipped
- The horse is very young or very old

Rationale for the Client: Client health and fitness will mitigate temperature concerns. High environmental or apparent temperatures can be dangerous. In the range of 90˚ and 105˚F (32˚ and 40˚C), heat cramps and exhaustion may occur. Between 105˚ and 130˚F (40˚ and 54˚C), heat exhaustion is more likely. Activities should be limited at this range. An environmental temperature over 130˚F (54˚C) often leads to heatstroke.[4]

Calculation of environmental or apparent temperature - Inclusion of the dewpoint in apparent temperature calculations increases the specificity of the calculation. Dewpoint is available on the National Oceanic and Atmospheric Administration (NOAA), the national weather service website. Apparent temperature or “feels like'' temperature can be located in the graph found in **Appendix B**.[5] The speed of the wind and external body moisture can also cause a chill that can dramatically affect the body’s rate of cooling. In extremely cold weather, especially with a high wind chill factor, hypothermia is a factor to consider, especially for the age groups younger than 4 or over 65.[4] Local wind chill temperature is available through the national weather service.

References:

1. McFarland, C. (2013, July 8). *Too Hot to Ride?* Horse Illustrated. Retrieved on September 19, 2021, from http://www.horsechannel.com/horse-exclusives/too-hot-to-ride.aspx.
2. The Equine Chronicle. (2018, June 2). *Is it Too Hot to Trot?* Retrieved September 19, 2021, from https://www.equinechronicle.com/is-it-too-hot-to-trot/
3. Clanton, C., Hathaway, M., Martinson, K., & Williams, C. (2021). *Caring for Your Horse in the Winter*. University of Minnesota Extension. Retrieved September 19, 2021, from https://extension.umn.edu/horse-care-and-management/caring-your-horse-winter.
4. Healthline. (2018, September 17). *Hot and Cold: Extreme Temperature Safety.* Retrieved September 19, 2021, from https://www.healthline.com/health/extreme-temperature-safety
5. National Weather Service. (n.d.) *Hourly Temperature & Apparent Temperature Forecast Graphs*. Retrieved September 19, 2021, from https://www.weather.gov/dvn/Forecast_Graphs#Top.

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Appendix A
Precautions and Contraindications to Equine Movement (Hippotherapy)

Rationale for determining the use of equine movement (hippotherapy)

The treating therapist, in conjunction with the referring physician and with the patient's consent, is ultimately responsible for choosing the safest and most effective treatment. This document will help you to be more effective when considering whether precautions will limit or contraindications will prevent a patient from having equine movement included in their plan of care.

Essential Considerations

The primary concern is to provide a safe, productive treatment session for all patients. As with any treatment, there is the need to do no harm. Recognizing that horse-related activities do hold inherent risks, we need to assess patient participation with a risk/benefit analysis. The essential question for all patients is, "Will the benefit of equine movement outweigh the risk?" This question must be answered by consensus with the entire therapy team: patient, parent or guardian, therapist(s), horse expert, and physician. There may be others included, depending on the individual situation. All individuals must be comfortable with the decision to participate by being familiar with all pertinent information and risks.

Medical Precautions and Contraindications

Knowledge of current precautions and contraindications to the use of equine movement is

essential. A **precaution** is a situation where additional investigation may be needed, and caution should be taken when proceeding with the treatment plan. Additional investigation could be contacting the physician or other treating therapist(s) before choosing equine movement (hippotherapy). It could include doing further preparation of the environment, the horses, or the team. It requires careful monitoring throughout the patient's treatment program.
The presence of a **contraindication** makes including equine movement (hippotherapy) inappropriate for that patient. Few contraindications are clear-cut. A descriptive list follows on page 26. This list is subject to periodic review, though it does *not* include every medical condition that could make equine movement inappropriate or unsafe. Use this list as a guide only.

It is the therapist's responsibility to practice responsibly and choose treatment within their level of expertise and their scope of practice. If a therapist does not include equine movement for that patient, the therapist should explore alternative treatment or make appropriate referrals and/or recommendations.

The decision-making process used to determine inclusion of equine movement (hippotherapy) for a patient is also used to determine whether equine movement remains appropriate in the longer term. Continual re-evaluation, on an informal and formal basis, is a necessity. Without periodic reassessment, a medical contraindication can develop and remain unknown to the therapist. This contraindication can raise safety, liability and credibility issues. **It is the responsibility of the therapist to maintain up-to-date information regarding the patient's health and functional status.**

Essential Considerations for Continued Use of Equine Movement

Equine movement (hippotherapy) inherently involves movement. If the movement will cause a decrease in the patient's function, an increase in pain, or generally aggravate the medical condition, equine movement (hippotherapy) may not be an appropriate choice.

Equine movement (hippotherapy) establishes a human-animal interaction. If this interaction is detrimental to the patient or the horse, equine movement (hippotherapy) may be contraindicated.

Equine movement (hippotherapy) requires the use of certain equipment in a prescribed environment, and is, by definition, interaction with a horse. The outdoor environment for equine movement (hippotherapy) is much less controlled than that of an indoor clinic. If the therapist cannot accommodate the patient's equipment needs, or the environment will

aggravate his or her condition, equine movement (hippotherapy) may not be appropriate.

There is always potential risk for a fall with equine movement (hippotherapy). In most instances, the fall would be from four or six feet above the ground. Such a fall may cause a greater functional impairment than the patient originally had. The possibility of a fall should be given careful consideration and may lead to the informed decision that equine movement (hippotherapy) is not appropriate for that patient.

Participating in activities around a horse involves risk. Even the well -trained horse is sometimes unpredictable, subject to its instinctive fight or flight responses. Horses are large, move quickly, and can be dangerous to the patient who is unable to respond appropriately.

Equine movement (hippotherapy) requires intervention by a team. The treatment team most often involves the therapist, horse handler, therapy horse, and side walker/therapy aides. If any members of the team are not qualified or trained in appropriate equine movement (hippotherapy) procedures, including safety; or, if an essential member of the team is absent, then equine movement (hippotherapy) is contraindicated.

Medications. As with all therapy sessions, consideration must be given to the medications, prescription and over the counter, the patient is taking. Of special concern is that equine movement (hippotherapy) takes place in the outdoor environment, with considerations such as weather (heat/cold/sunlight/wind) and allergens. Be familiar with all of the patient's medications, dosages, time of administration, recent changes, and side effects. Your best resource regarding medications is the patient's physician and/or pharmacist.

- Interactions between medications is an important consideration; for example, erythromycin may cause acute elevations of the commonly used anticonvulsant carbamazepine (Tegretol).
- Know your patient's needs regarding medications, including as needed/PRN medications that may be necessary for the special environmental factors. For example, bronchodilators are used for reactions to airborne irritants such as dust and allergens.
- Realize that some medications will cause sensitivities in the equine environment. For example, antibiotics may make the patient more photosensitive in the sunlight.

Behaviors. Behaviors that may create unacceptable levels of risk, such as active violence toward people and animals.

ABSOLUTE Contraindications for Equine Movement (Hippotherapy)

- Acute herniated disc with or without nerve root compression
- Chiari II malformation with neurologic symptoms

- Atlantoaxial instability (AAI) – a displacement of the C1 vertebra in relation to the C2 vertebra as seen on x-ray or computed tomography of significant amount (generally agreed to be greater than 4 mm for a child) with or without neurologic signs as assessed by a qualified physician; this condition is seen with diagnoses which have ligamentous laxity such as Down syndrome or juvenile rheumatoid arthritis
- Coxa arthrosis – degeneration of the hip joint; the femoral head is flattened and functions like a hinge joint versus a ball and socket joint. Sitting on the horse puts extreme stress on the joint
- Grand mal seizures – uncontrolled by medications
- Hemophilia with a recent history of bleeding episodes
- Indwelling urethral catheters
- Medical conditions during acute exacerbations (rheumatoid arthritis, herniated nucleus pulposus, multiple sclerosis, diabetes, etc.)
- Open wounds over a weight-bearing surface
- Pathologic fractures without successful treatment of the underlying pathology (e.g. severe osteoporosis, osteogenesis imperfecta, bone tumor, etc.)
- Tethered cord with symptoms
- Unstable spine or joints including unstable internal hardware

The above section is from the AHA, Inc. Part I Treatment Principles Course Manual.

Appendix B
Heat Index Chart

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